

The Fisheries of Lake Huron



Lloyd C. Mohr
Upper Great Lakes Management Unit
Owen Sound, ON
and
Mark P. Ebener
Chippewa Ottawa Resource Authority
Sault Ste. Marie, MI

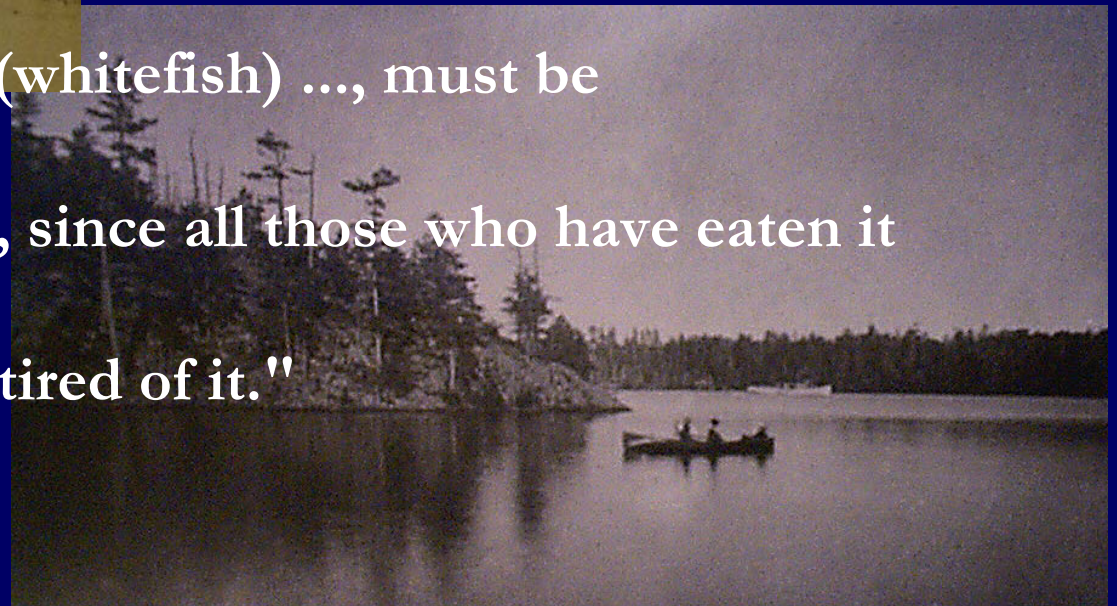
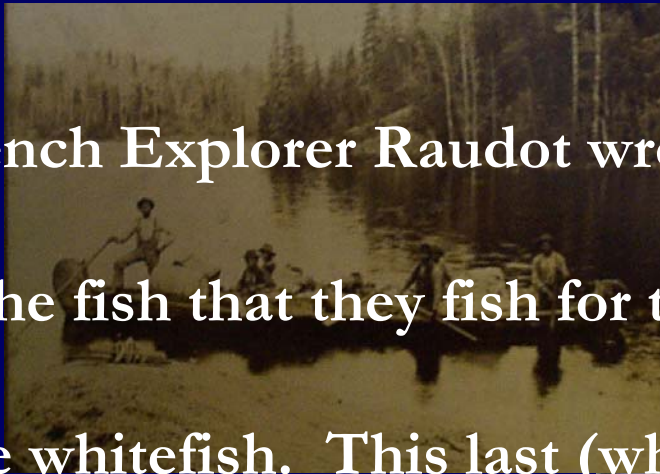
The Fisheries of Lake Huron



Commercial Fishery - *Historical*

French Explorer Raudot wrote in 1710

"The fish that they fish for there are the trout, sturgeon, and the whitefish. This last (whitefish) ..., must be the best fish in the world, since all those who have eaten it say that they never grow tired of it."



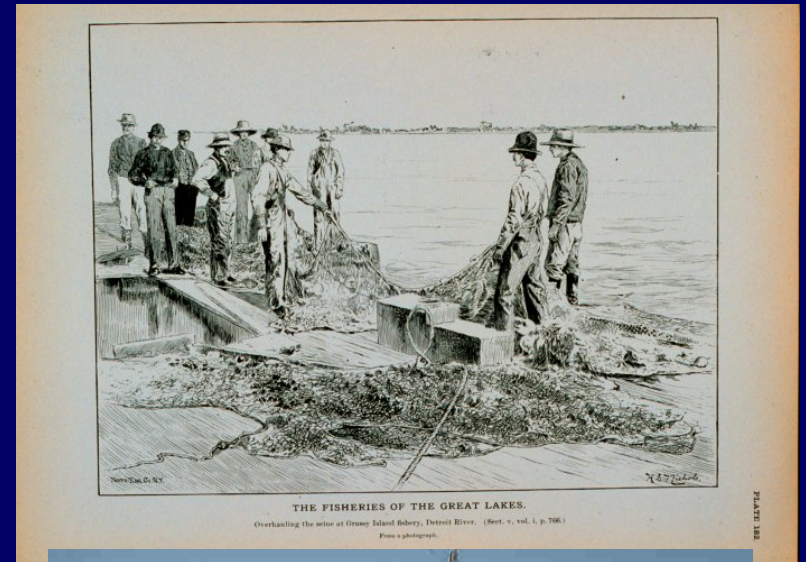
Commercial Fishery - *Historical*

Koelz (1929)

Berst and Spangler (1973)

Peters (1981)

Brown et al. (1999)



Commercial Fishery - *Current*

A. Management Direction

- 1960's Michigan's fishery policy shift
- 1984 Modernization of Ontario's commercial Industry
- 1980's Assertion of First Nation's / Native American's Treaty Rights - COTFMA (1979)



Chippewa-Ottawa
Treaty Fishery
Management
Authority

Commercial Fishery - *Current*

Commercial Fishing Fleet

	<u>1979</u>	<u>1999</u>
OCF Licences	123	72+
Ont. Fishers	96	58+
COTFMA Fishers	54 (1982)	42
MI State Fishers	35	19

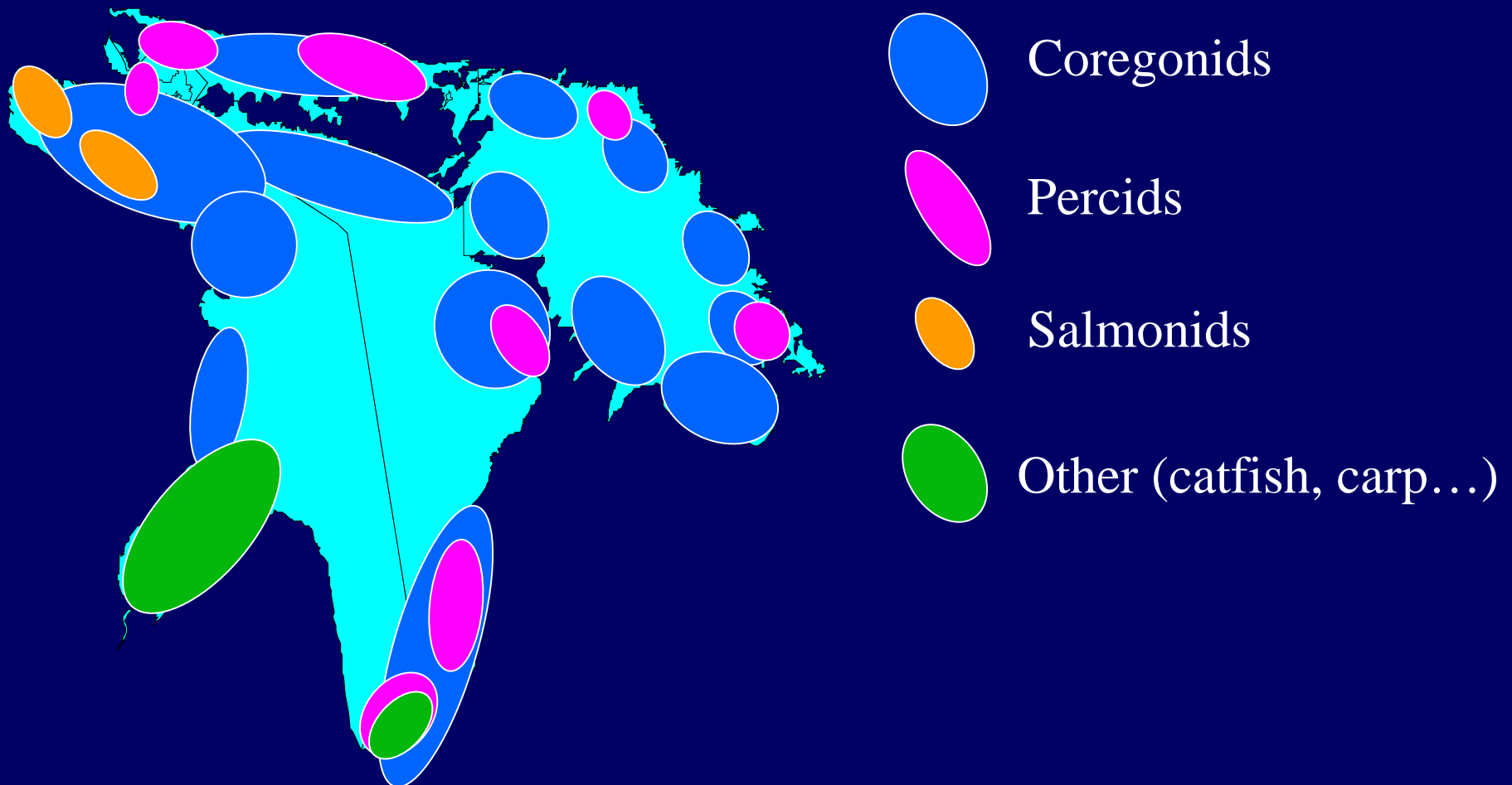
Commercial Fishery - *Current*

B. Technology Changes

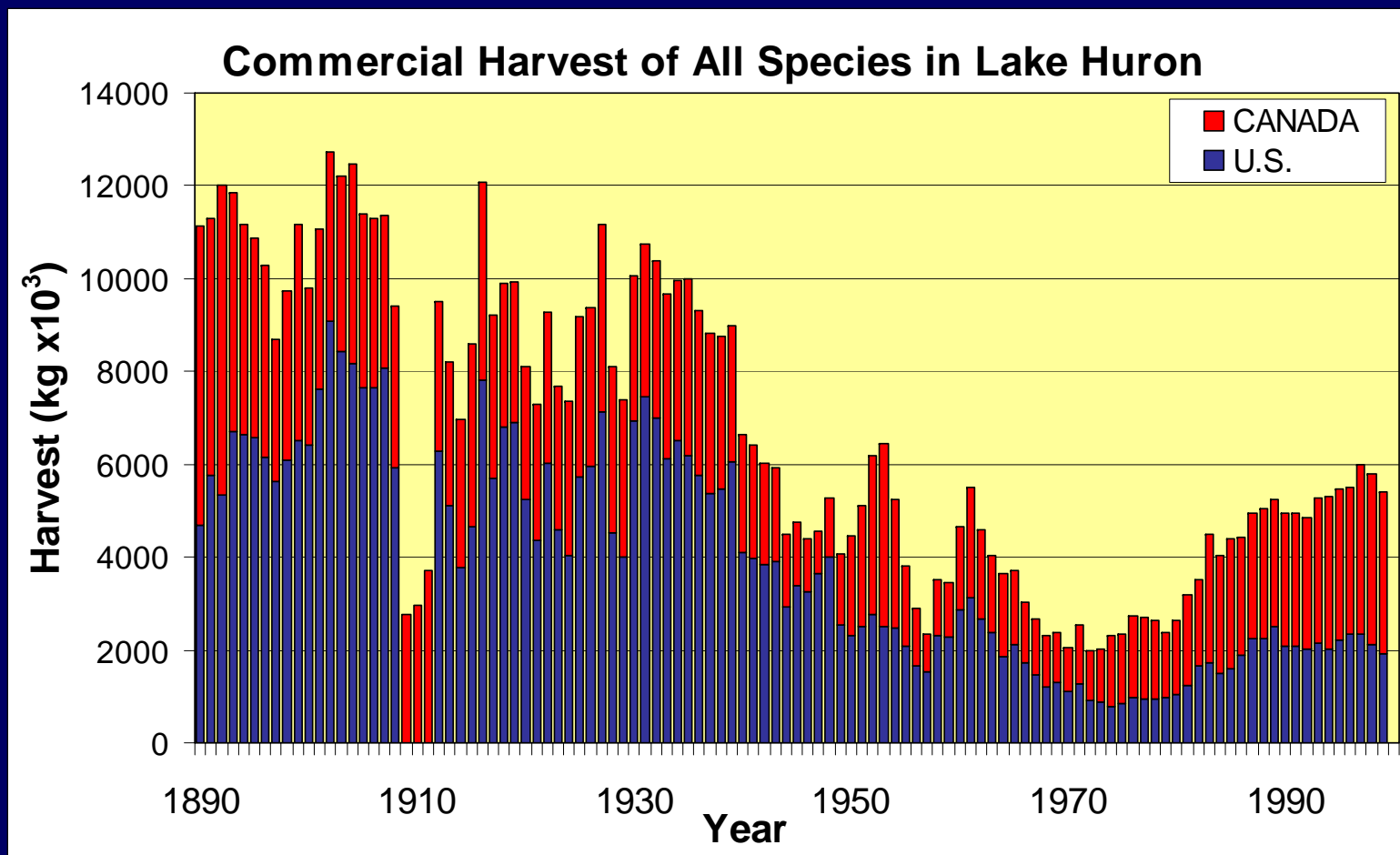
- Fleet Fishing Power
 - Tracking ability
 - Communication ability
 - Size of vessels
 - Processing capabilities



Commercial Fishery - *Distribution*



Commercial Fishery - *Harvest*

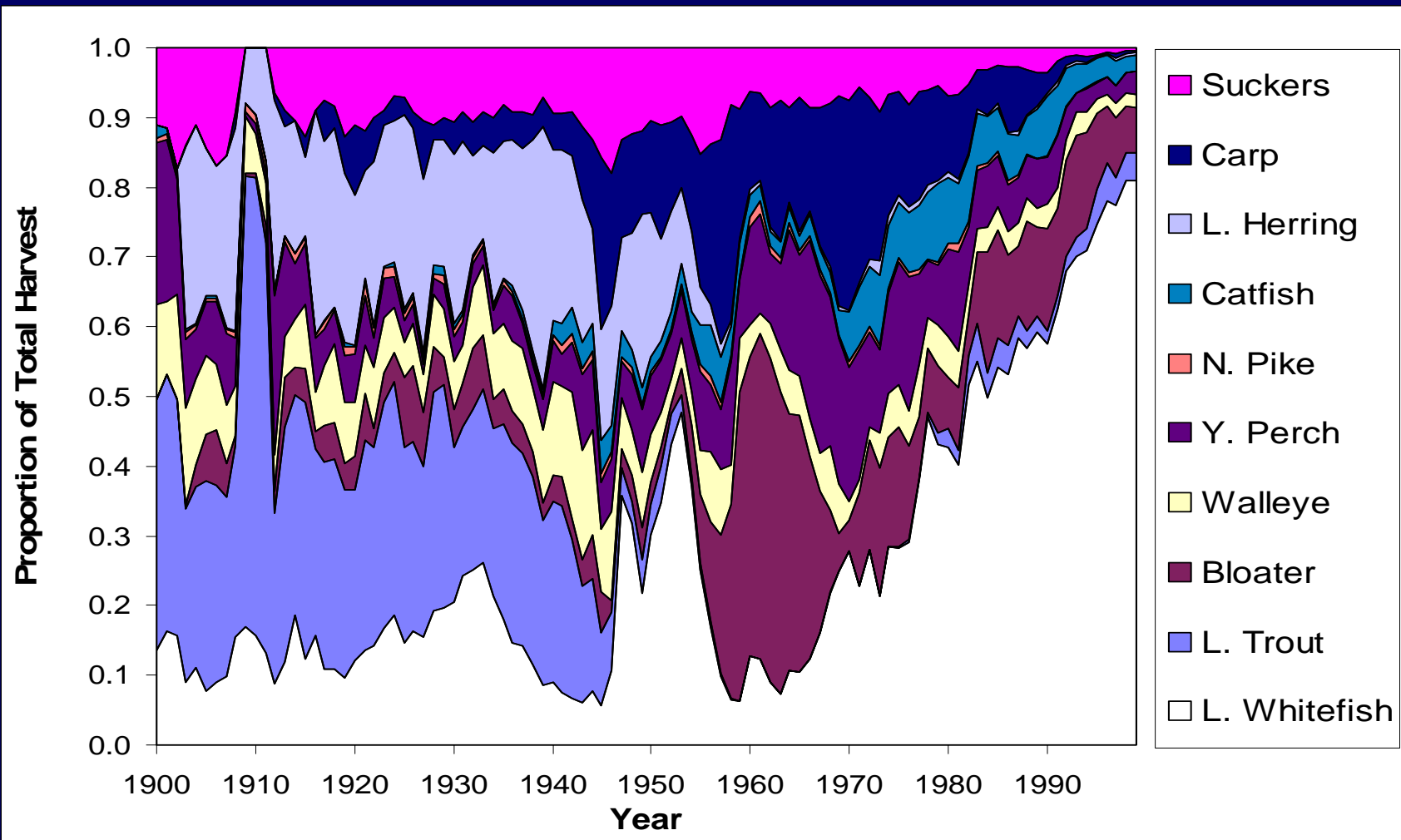


12.72 million kg

2.39 million kg

5.98 million kg

Commercial Fishery - *Harvest*



Commercial Fishery - *Effort*

Large Mesh Gill Nets

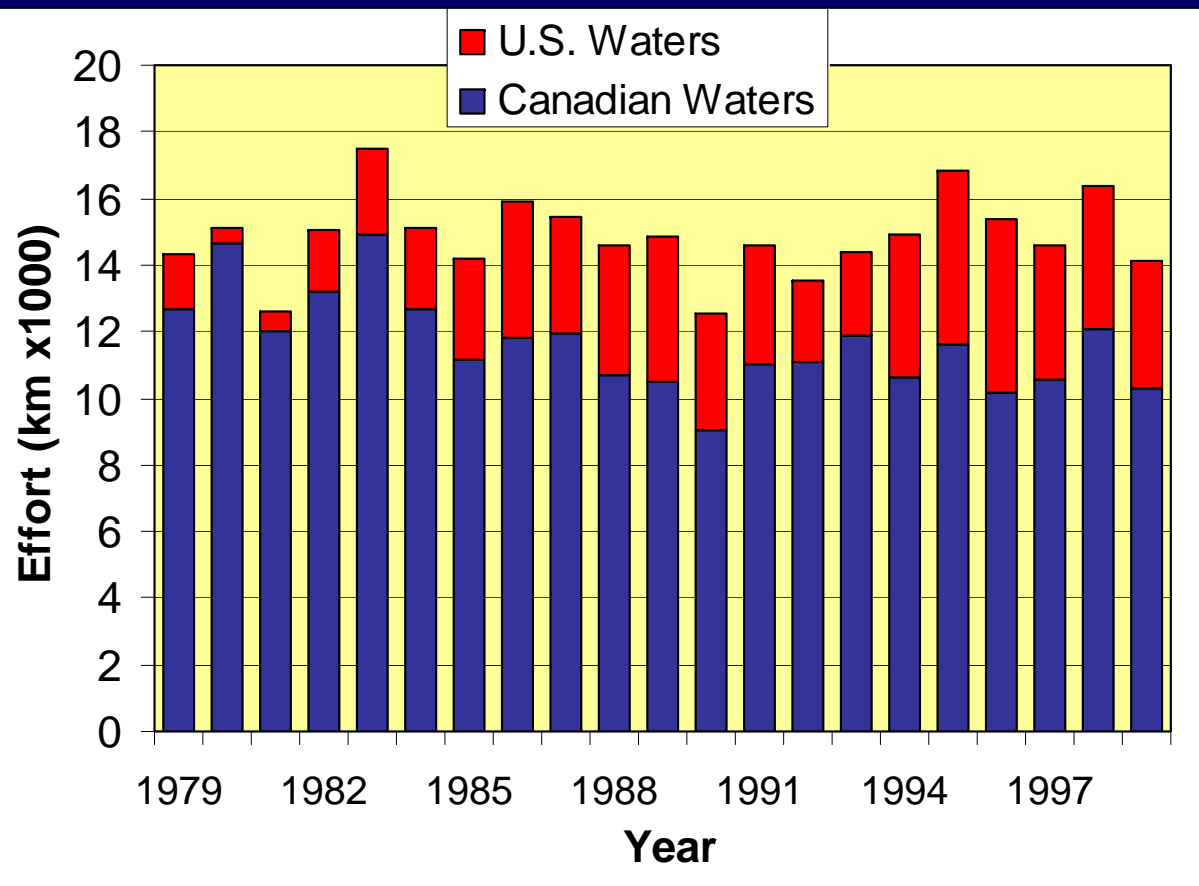
Lake Whitefish

Walleye

Chinook Salmon

Lake Trout

Carp (XLGE)



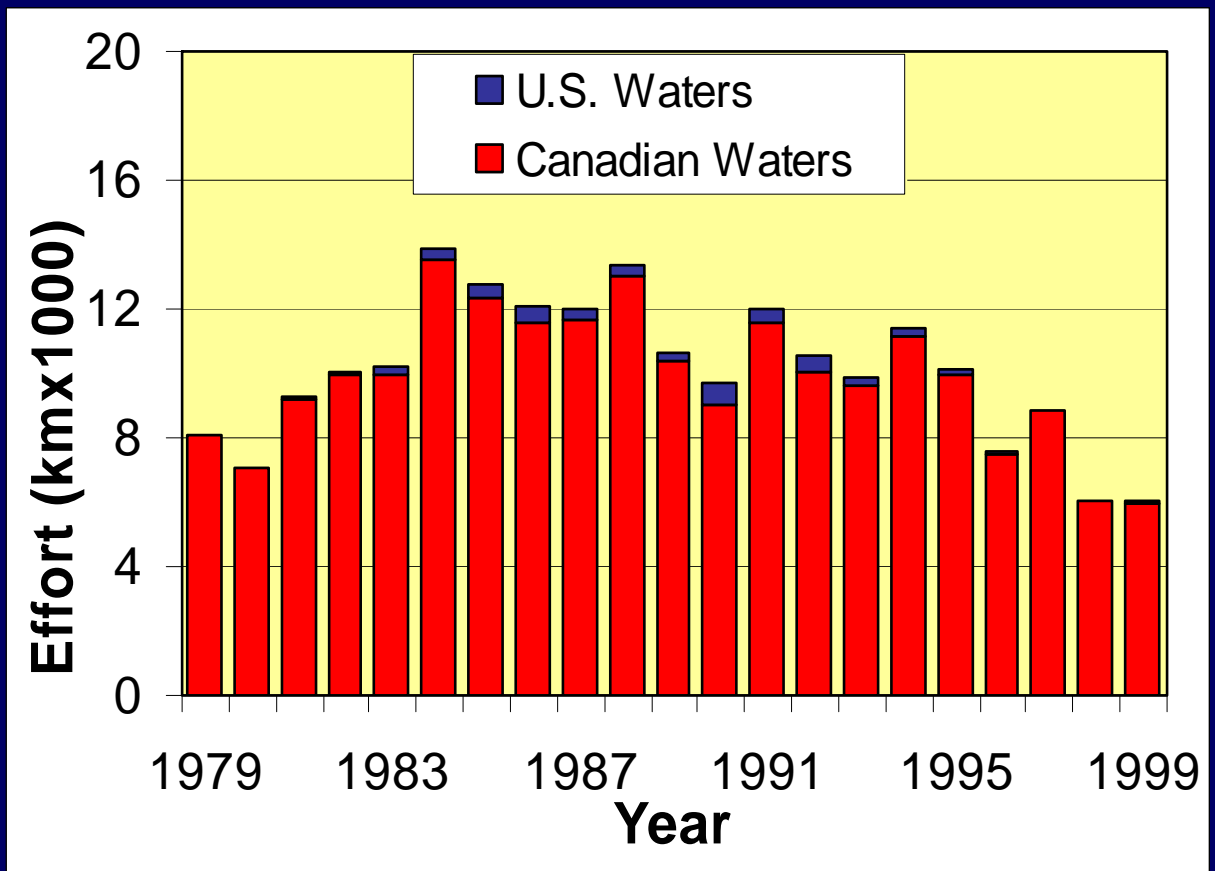
Commercial Fishery - *Effort*

Small Mesh Gill Nets

**Bloater Chub /
Yellow Perch**

Lake Herring

Round Whitefish



Commercial Fishery - *Effort*

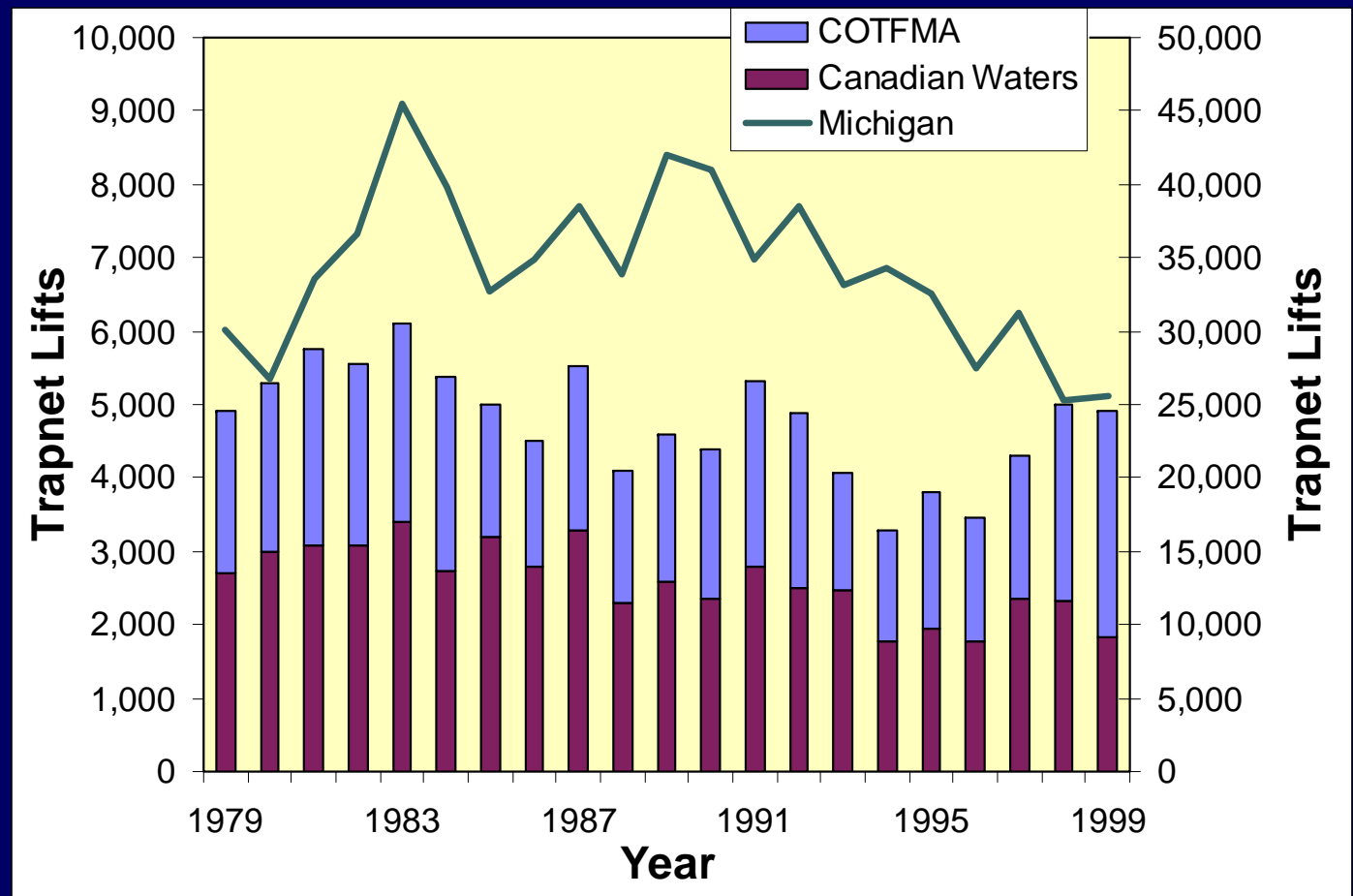
Trap Nets

Lake Whitefish

Walleye

Yellow Perch

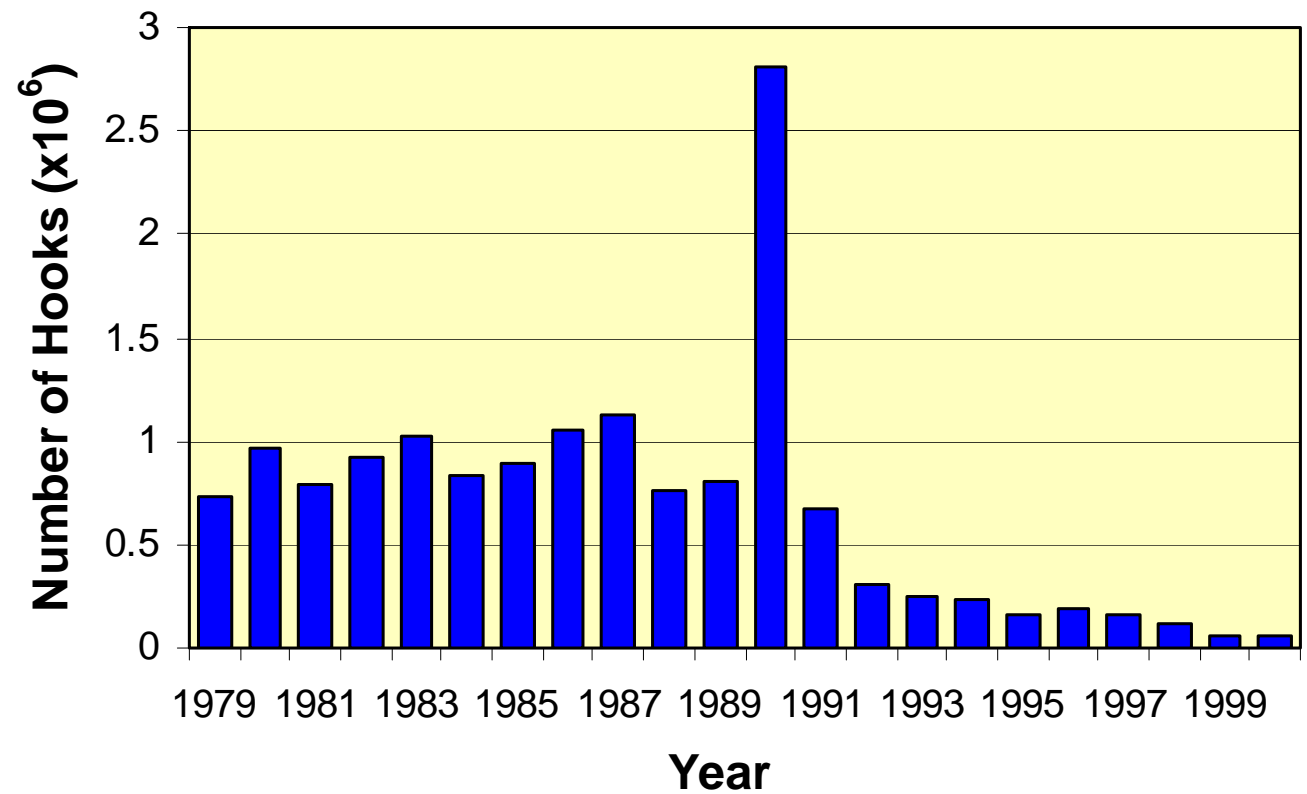
Round Whitefish



Commercial Fishery - *Effort*

Hook Sets

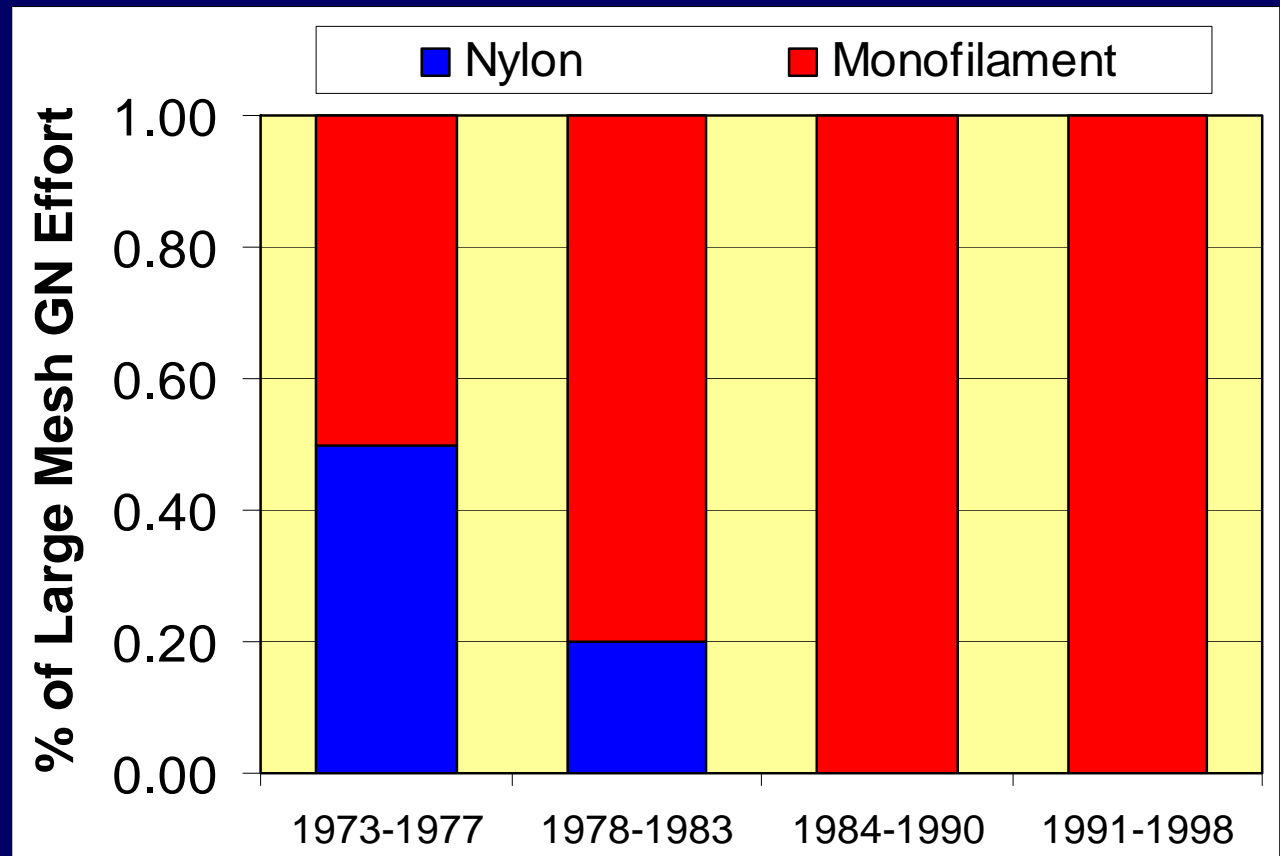
Channel Catfish



Commercial Fishery - *Effort*

C. Gear Changes

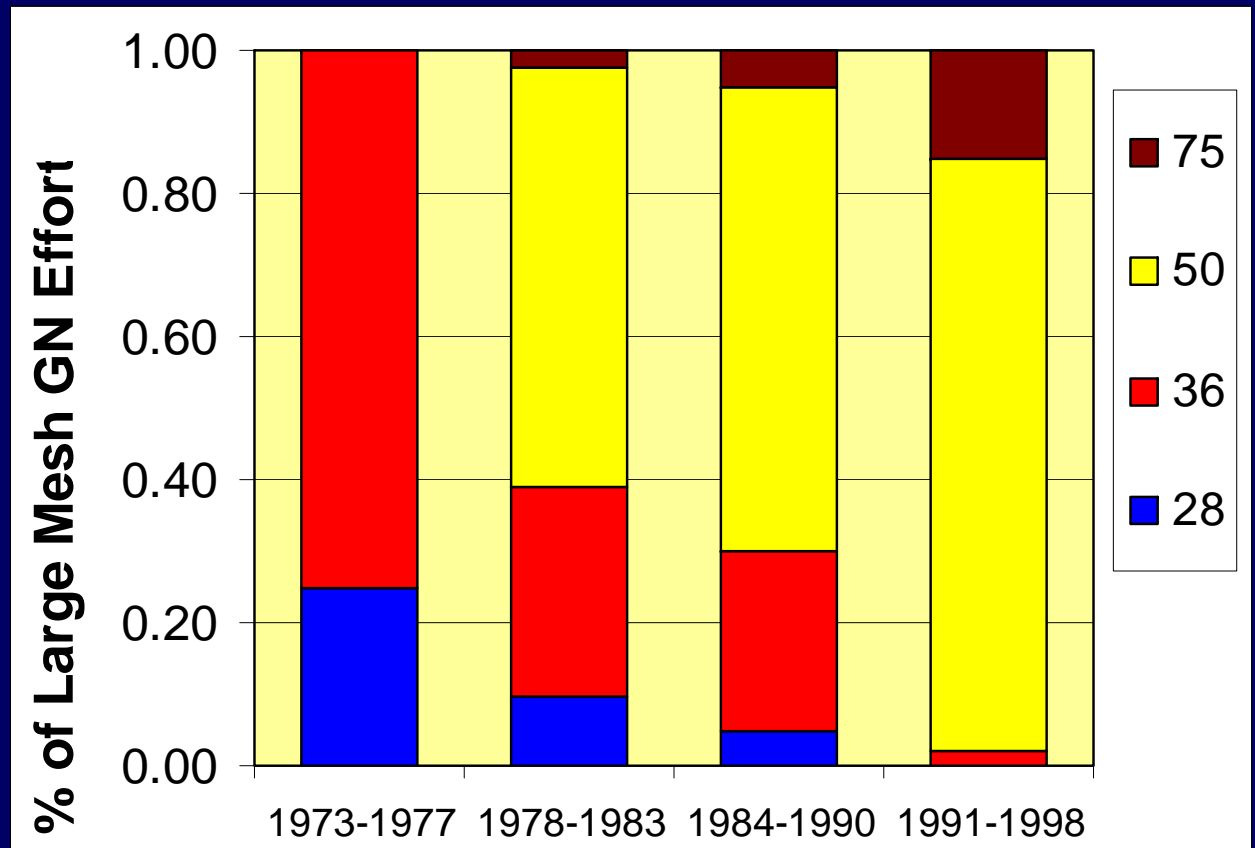
- Net Material (Northern Michigan waters)



Commercial Fishery - *Effort*

C. Gear Changes

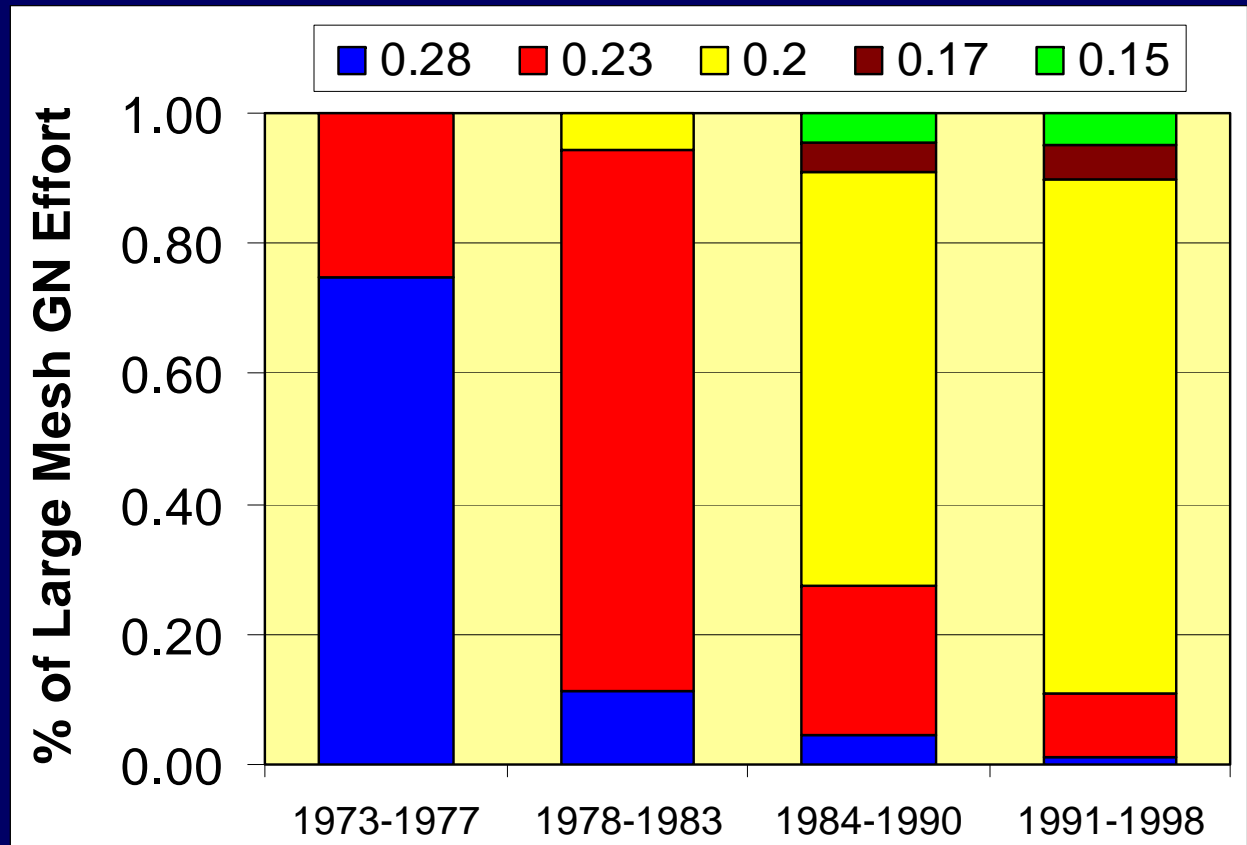
- Height of Nets (Northern Michigan waters)



Commercial Fishery - *Effort*

C. Gear Changes

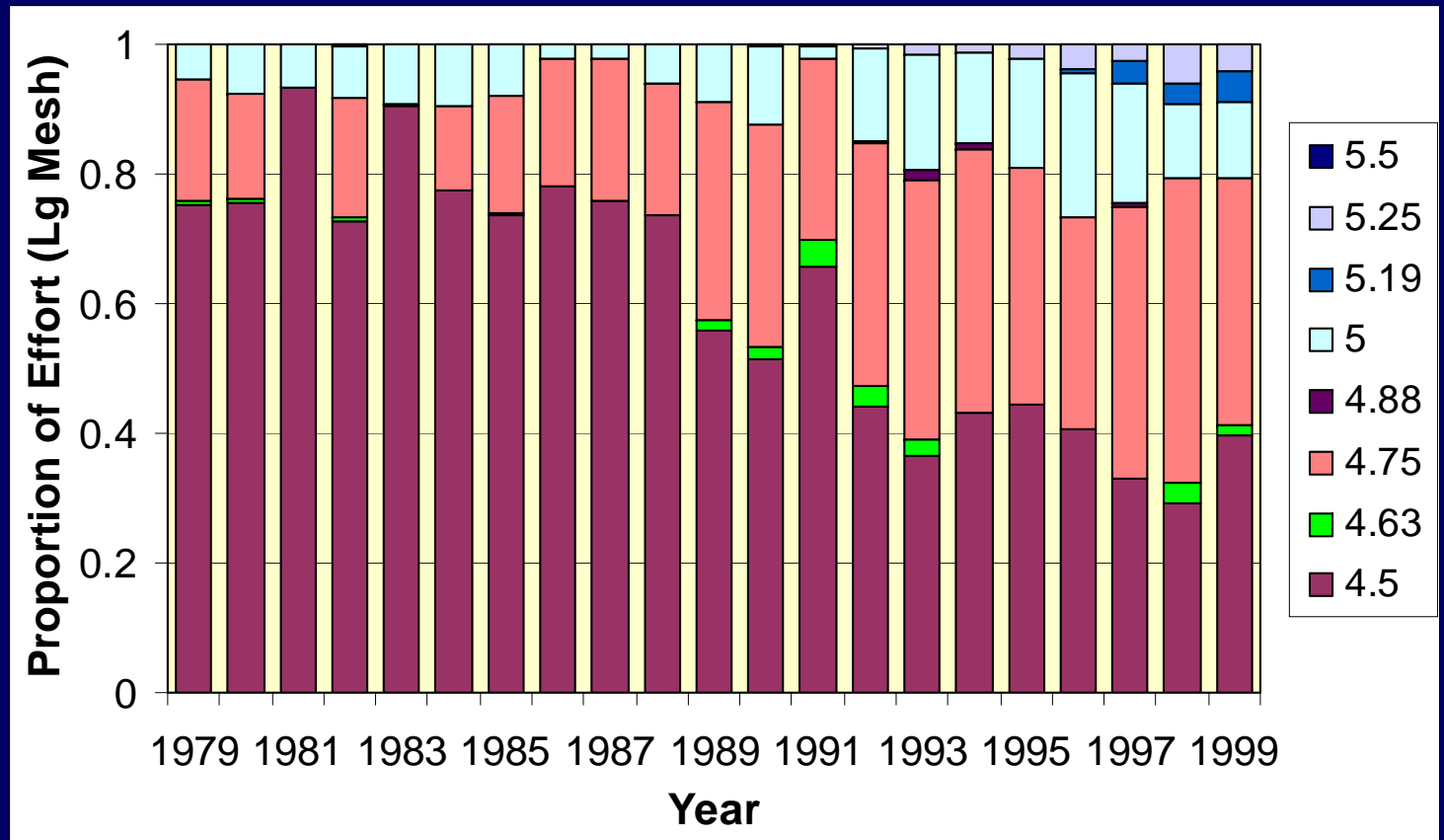
- Twine Size (Northern Michigan waters)



Commercial Fishery - *Effort*

C. Gear Changes

- Mesh Size (Canadian Waters)



Commercial Fishery - *Synopsis*

- Significant changes in Commercial Fishing Effort
 - Commercial Fleet Dynamic - Participants changing
 - Fishing Power increasing
- Significant changes in Commercial Fishing Harvest
 - Lake whitefish dominant commercial species
 - Lake Trout Incidental concern
 - Warmwater species harvest decreasing

Recreational Fishery



Recreational Fishery - *Historical*



Historically - nearshore fishery, Lodge or cottage based

Walleye, yellow perch, bass and pike fisheries in Georgian Bay



Yellow perch, lake herring fisheries in Saginaw Bay, northern Lake Huron (MI)

Offshore fisheries not significant

Recreational Fishery - *Current*

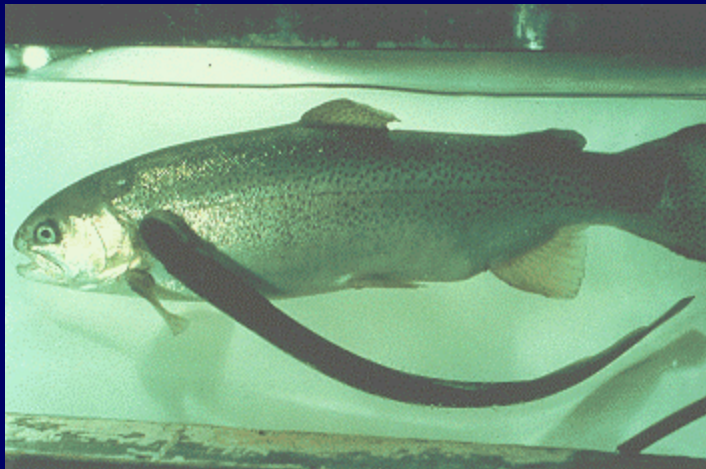


Technology advances

Boats, electronics, gear

Changes in Fish Community/Exotics

Sea Lamprey, alewife, smelt



Recreational Fishery - *Current*



Technology advances

Larger, safer boats, electronic gear

Changes in Fish Community/Exotics

Sea Lamprey, alewife, smelt

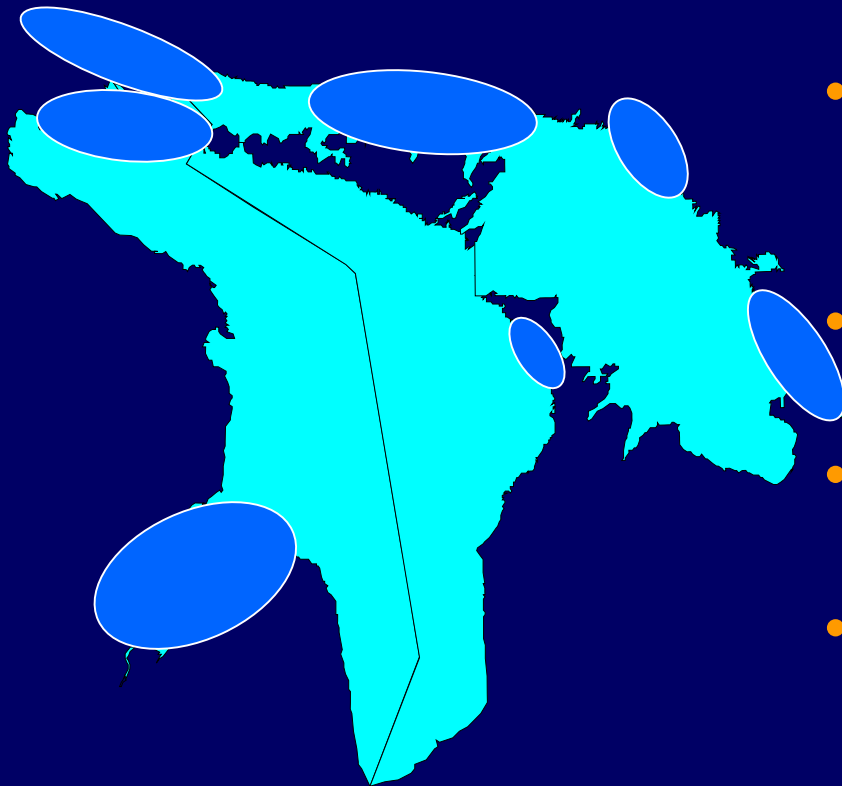
Salmonid Stocking Strategy



Habitat Manipulation

Spawning, Passage Rehab

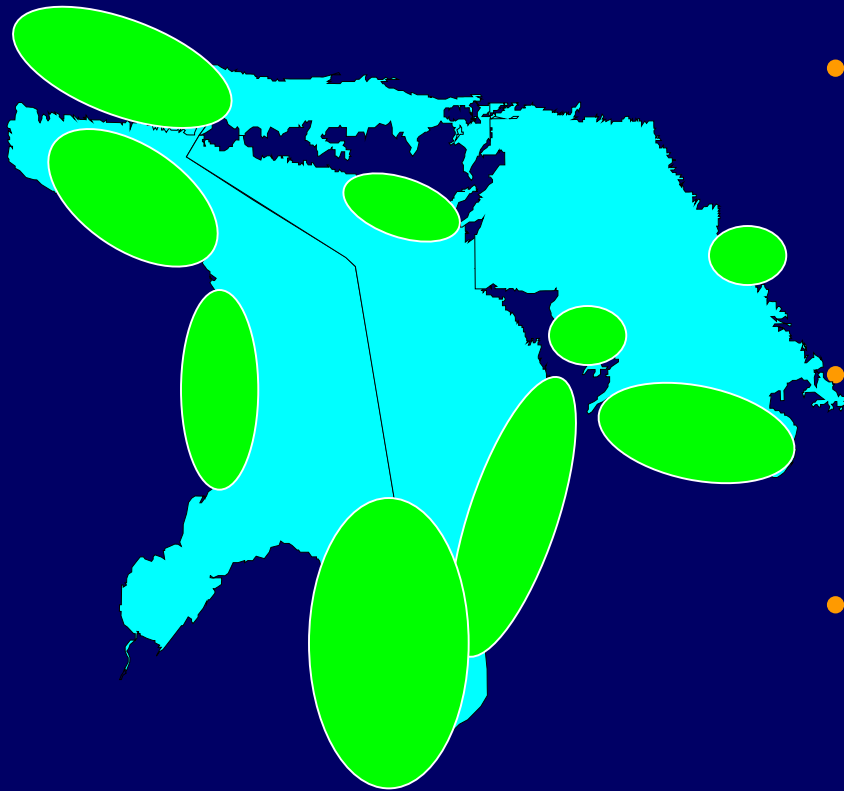
Recreational Fishery - *Nearshore*



- Walleye, N. Pike, L. Herring, Yellow Perch, Smallmouth Bass
- Most stocks depressed
- Managed locally, stocking tool
- Vulnerable to over exploitation, environmental change, habitat loss, exotic invasions



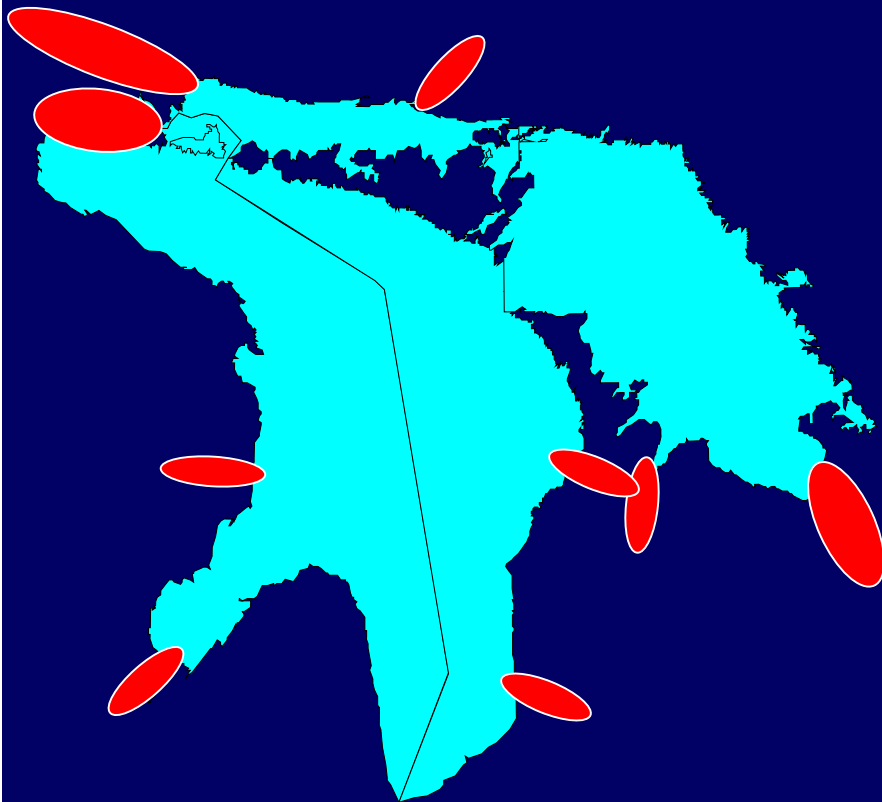
Recreational Fishery - *Offshore*



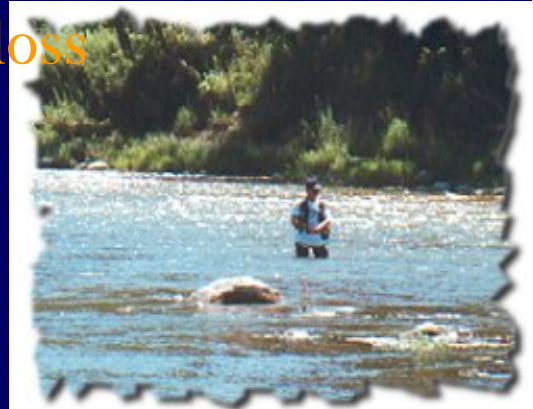
- Chinook salmon, Lake trout, Coho salmon, Brown trout, Rainbow trout
- Heavily dependent upon stocking
- Managed globally, Predator - Prey dynamics
- Lake trout targeting concerns



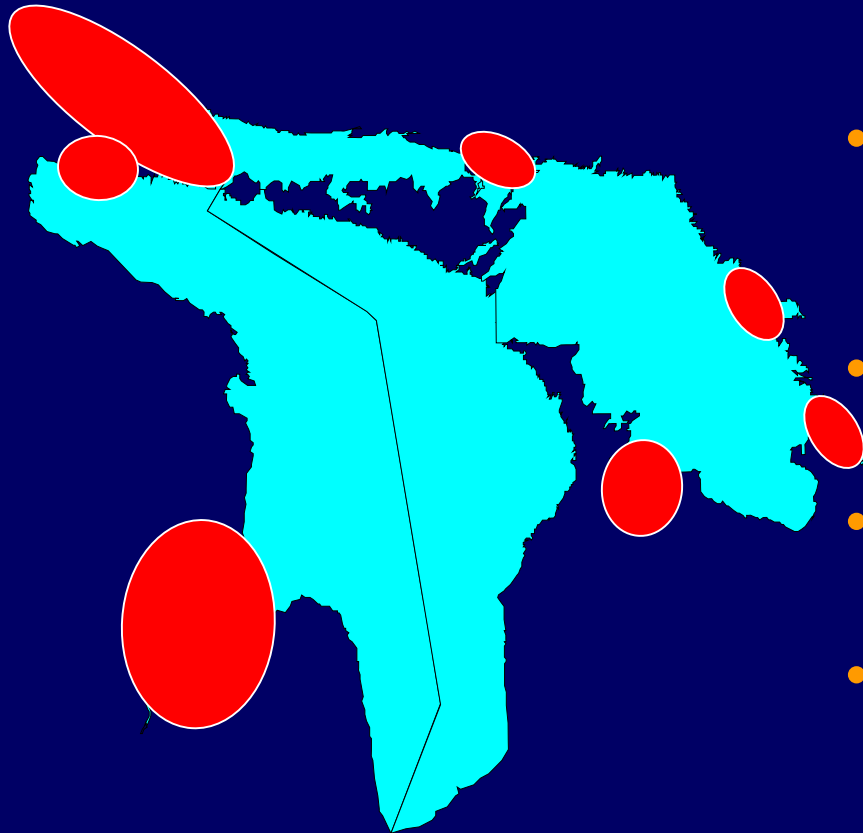
Recreational Fishery - *River*



- Rainbow Trout, Chinook Salmon, Walleye, Catfish
- Habitat/Passage Main Issues
- Stocking used to manage
- Susceptible to environmental changes, habitat loss



Recreational Fishery - *Winter*

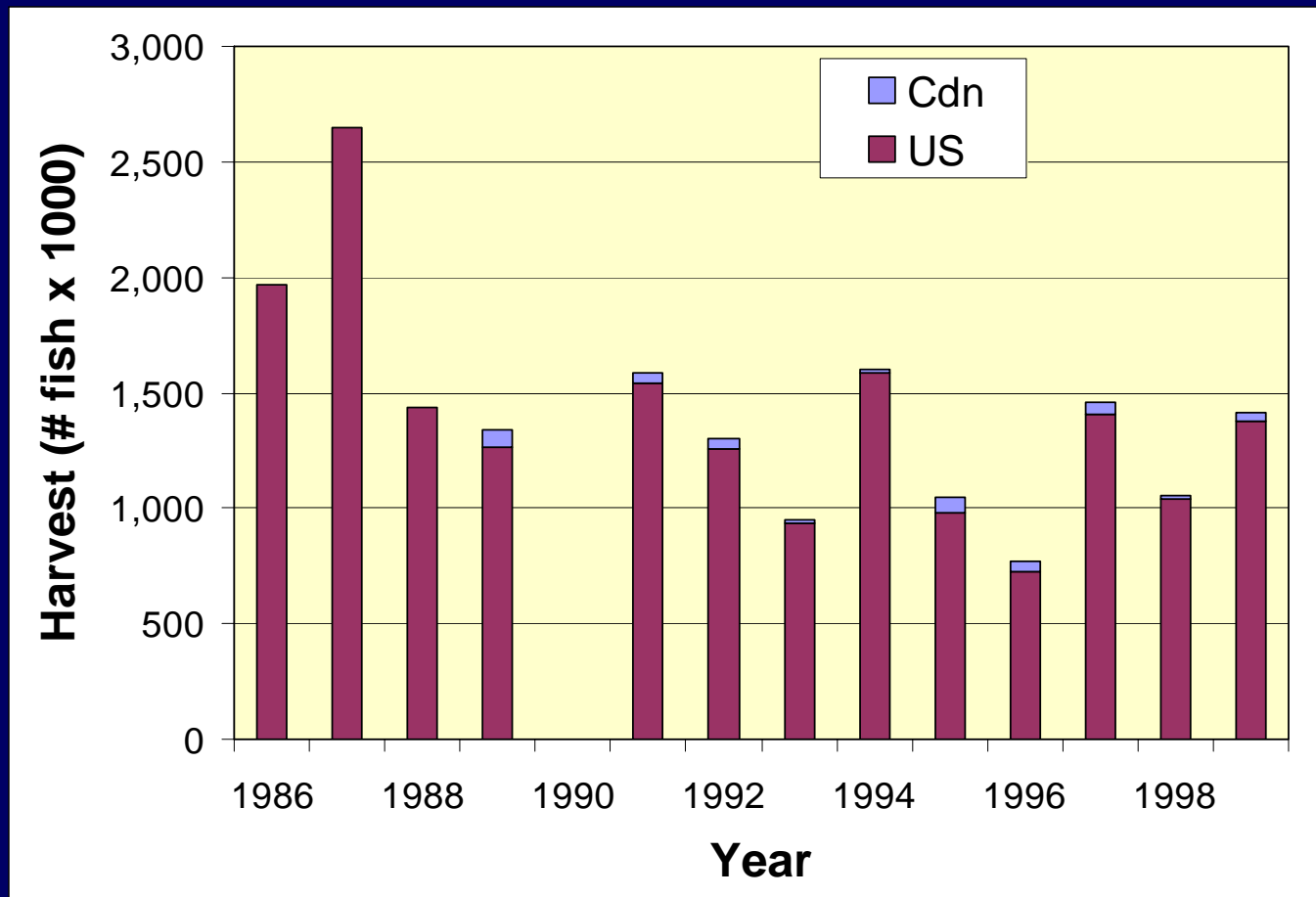


- Yellow Perch, Lake Whitefish, Lake Trout
- Dependent upon climate
- Highly variable
- Potential for high exploitation rates



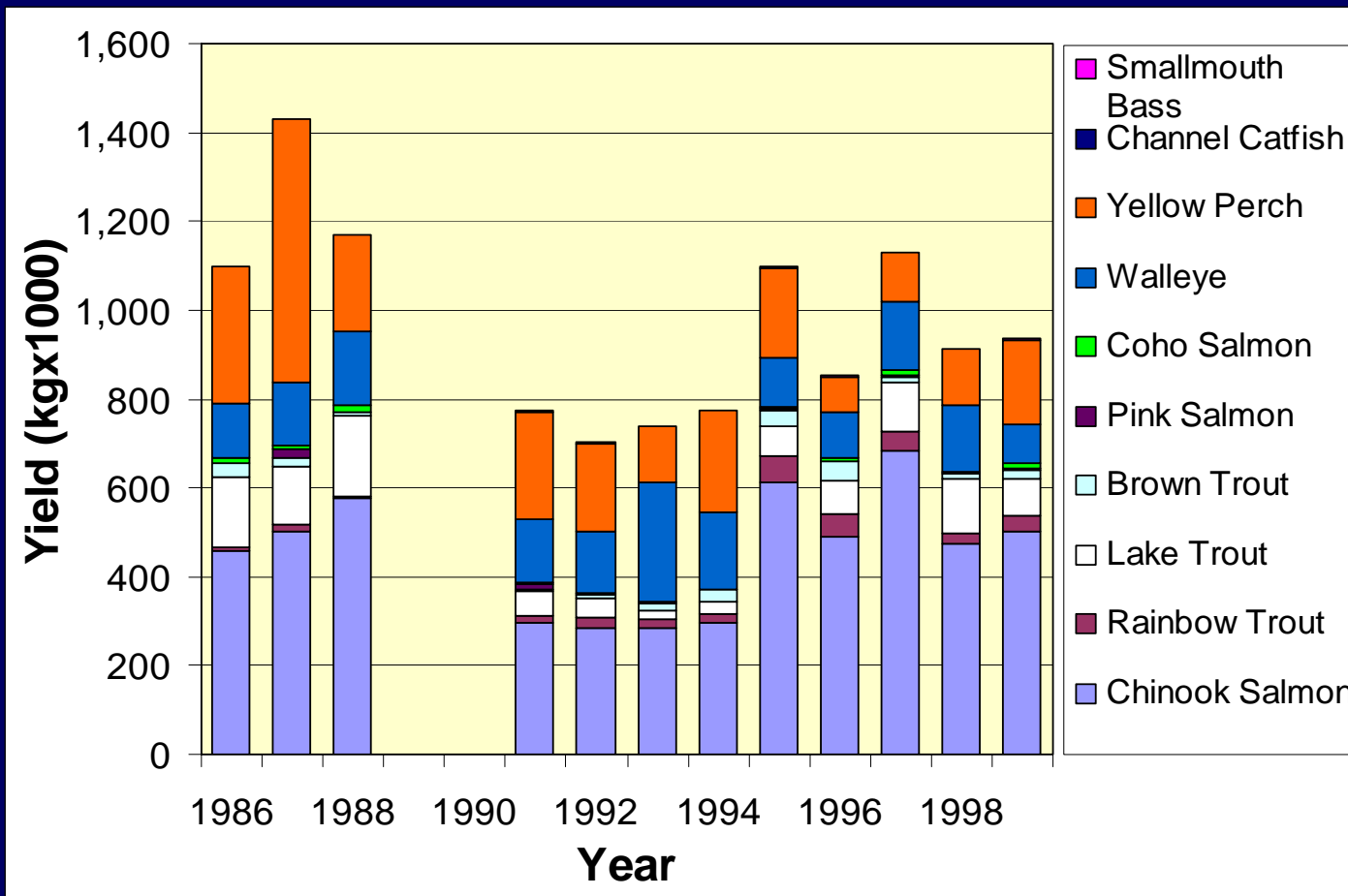
Recreational Fishery - *Harvest*

Main Basin



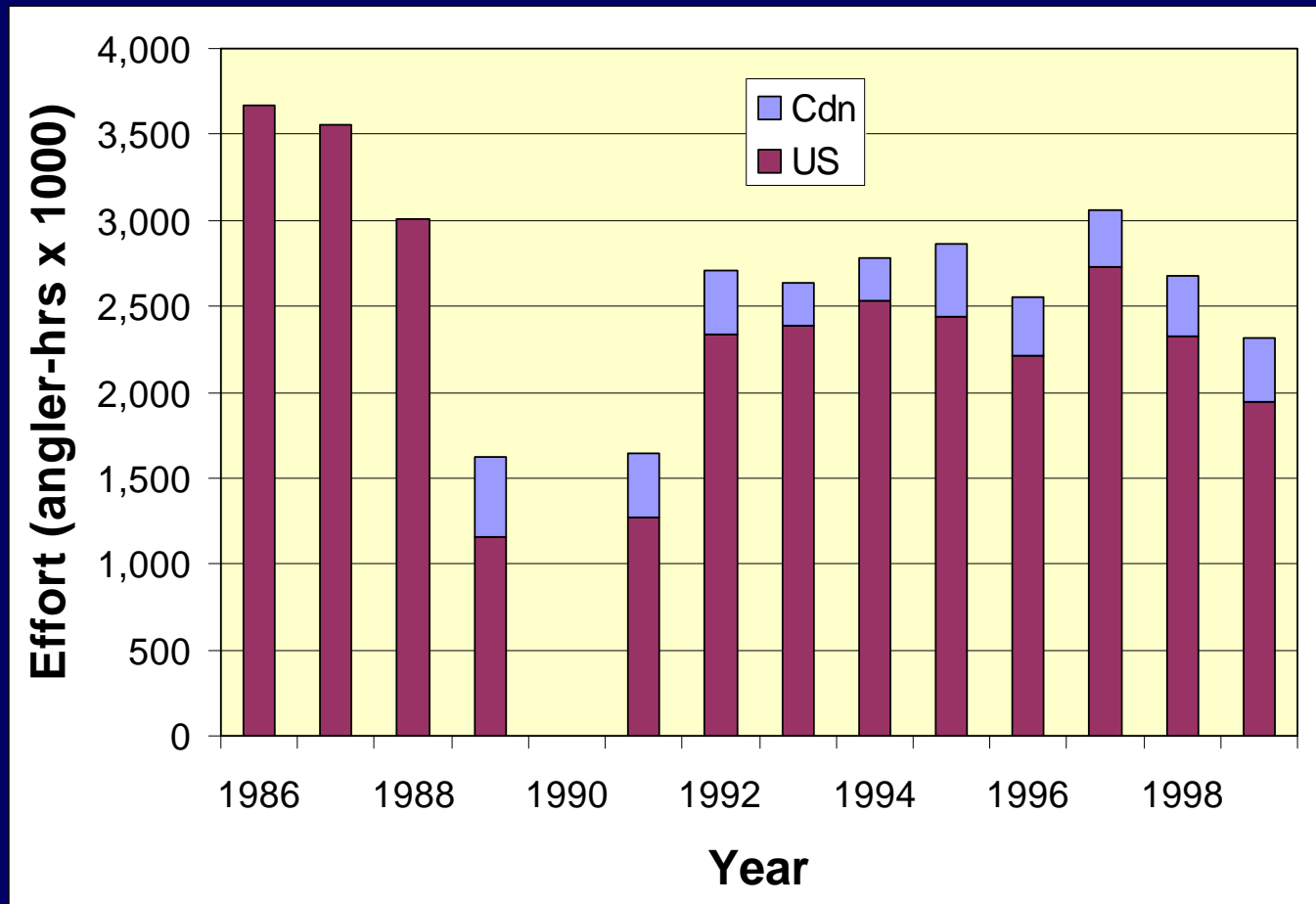
Recreational Fishery - *Yield*

Main Basin



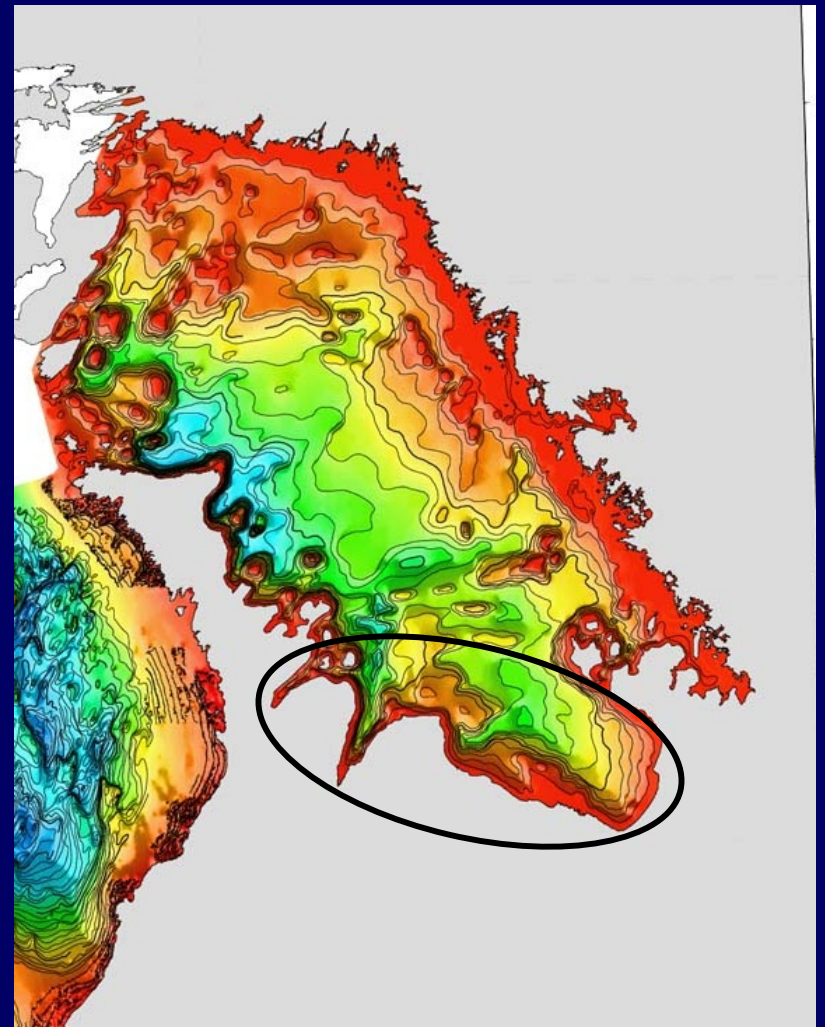
Recreational Fishery - *Effort*

Main Basin



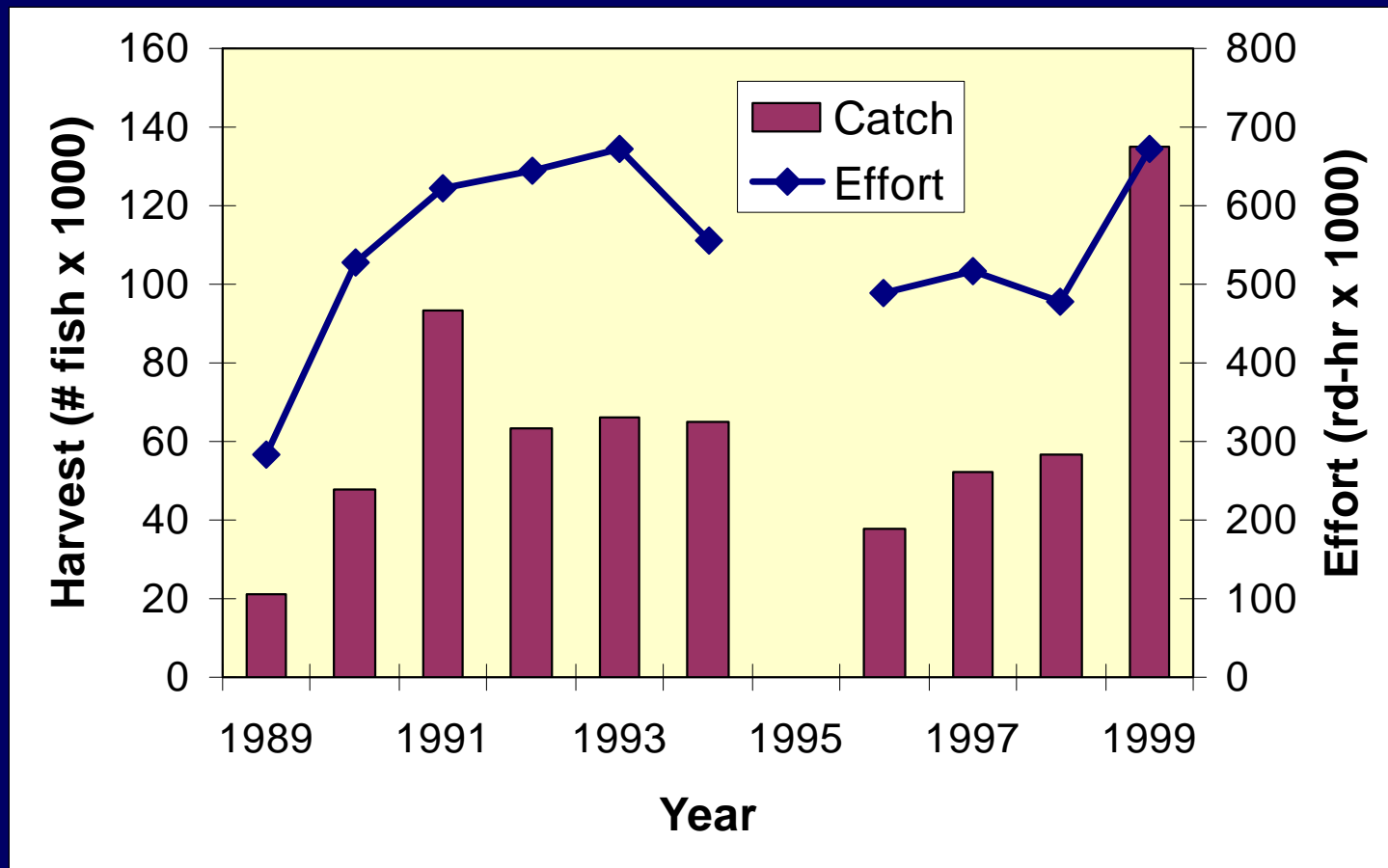
Recreational Fishery

Georgian Bay



Recreational Fishery - *Harvest/Effort*

South Western Georgian Bay



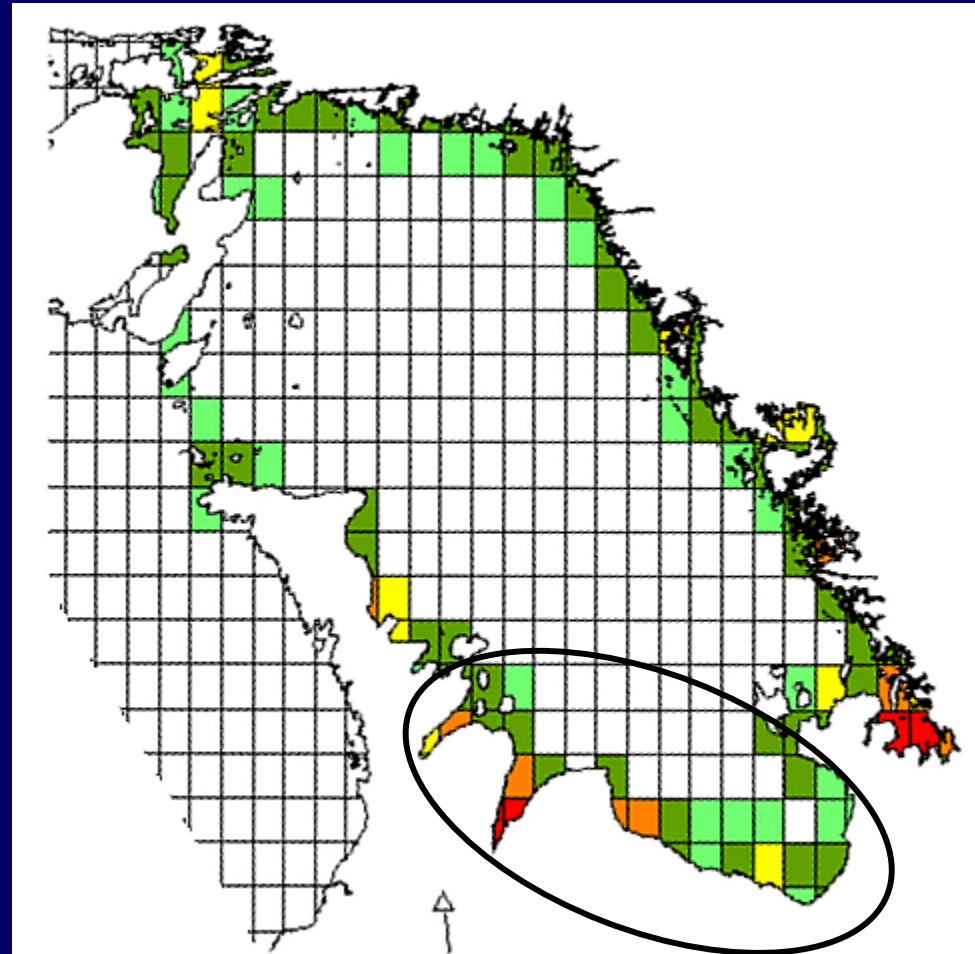
Recreational Fishery

Georgian Bay

44.6 % effort 2000 1979

1992

<u>SW G. Bay</u>	<u>S. Sound</u>	
126,000	120,130	rd-hrs
63,000	22,700	fish



Recreational Fishery

North Channel

Nearshore

Walleye,
Yellow Perch
Northern Pike
Bass

Offshore

Chinook Salmon
Rainbow Trout
Lake Trout
Walleye



Recreational Fishery

North Channel

1996 - Bay of Islands

19,635 rd-hr

2,990 fish harvested

1998 - North Shore Index

16,840 rd-hr

4,772 fish harvested

1999 - North Shore Index

18,397 rd-hr

8,357 fish harvested



Recreational Fishery

St. Mary's River

1999 - Joint Creel
556,399 ang-hr

141,544 fish harvested

Key Species

Yellow Perch

Lake Herring

Lake Whitefish

walleye

chinook salmon

northern pike



Recreational Fishery - *Overview*

Lake Huron

Estimated Effort

4.23 million ang-hrs

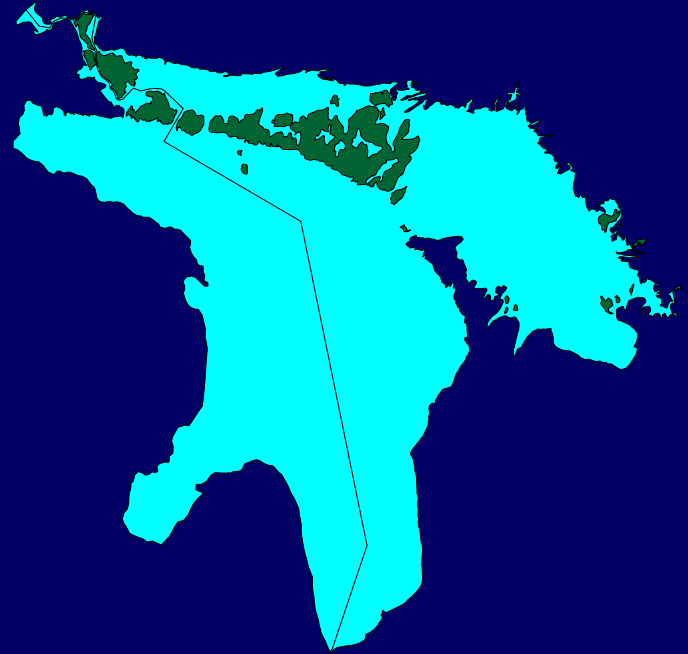
Estimated Harvest

1.73 million fish

Estimated Yield

1.4 million kgs

Pacific salmonids, percids



Lake Huron Fisheries

Current Yield = 5.98×10^6 (CH) + 1.4×10^6 (RF) kg

Extremely Diverse

Evolved over past 20 years, over past 5 years, Future?

Key Issues

- Rehabilitation of Lake Trout
- Stocking
- Nearshore/River rehabilitation efforts
- Changing fish/aquatic community - Exotics
- Data needs

The Fisheries of Lake Huron

